

Exercise Machine

This application claims the benefit of U.S. Provisional Application No. 60/440,492, filed January 16, 2003.

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Field

The invention relates to the field of exercise equipment, and more particularly to an angled traveling exerciser.

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Background

The present invention is developed to provide an aerobic or anaerobic workout for the user, with a particular focus on the lower body. The exercise device will provide the user with the effect of strengthening and toning all muscles in the user's lower body, including, but not limited to, all muscles contained within the Hips, thighs, buttocks (or "glutes") and calves, with a secondary emphasis on the strengthening of the lower back or core muscles of the abdomen.

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Summary

An exercise device comprising a base, a pair of arced parallel bars having a top and a bottom end, where the top end of said bars being further from said base than said bottom end, and a seat, the seat having bottom rest and a back rest. The bottom rest having a top and bottom end and a front and back side, and the back side of said bottom rest connected to said parallel bars to be capable of sliding on said parallel bars between said top and bottom end. The device has a foot platform positioned away from said parallel bars and angled from to parallel bars so that said system is capable of imitating free weight squat motion, and at least one tension cord capable of resisting motion of said seat away from said foot platform. The resisting cord having a top and bottom end, said top end of said

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resisting cord connected to said seat and bottom end of said resisting cord connected to said device.

Brief Description of the Figures

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In order that the manner in which the above recited objectives are realized, a particular description of the invention will be rendered by reference to specific embodiments thereof that are illustrated in the appended drawings. Understanding that the drawings depict only typical embodiments of the invention and are not therefore to be considered

10 to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings in which:

Figure 1 is a rear perspective view of the invention;

Figure 2 is a front perspective view of the invention;

15 Figure 3 is an exploded view of the component of the invention; and

Figure 4 is a bottom perspective view of the breaking mechanism of the invention.

Description of the Embodiments

20 An exercise machine is disclosed that simulates the motion and benefit of free weight squats. The machine has a seat 1 that moves away from the ground along an arc shaped track 2 and 3, a foot rest 4 substantially perpendicular to the seat rest, and tension cords 5 that provide weighted resistance.

25 Turning to Figures 1 and 2, the exercise machine has a seat 1. The seat 1 is sized to comfortably fit against the backside of a person. The seat has a bottom portion 8 and a rear portion 9. The bottom portion has approximately half the length and the same width as the rear portion. The bottom portion is capable of engaging the buttocks and legs of a user, while the top portion is capable of engaging the lower back of a user. In use, the

30 user presses against the top portion, thrusting the seat backward along the machine.

The seat travels along an arc shaped track 2 and 3. The distance of the path formed by the track 2 and 3 is approximately between two and three times the length of the seat. This ratio provides for a full squat thrust for a standard person. The seat travels in both
5 an upward and downward direction, towards and away from the foot rest 4. The travel is accomplished along an arc which is similar to the motion of a weight-lifter performing a “free-weight” squat exercise from a standing position.

The user of present invention receives the same benefits of muscular-skeletal
10 development as a person performing the “free weight” squat; however, the user is now in a seated position. Thus, the user is provided with the ability to perform the exercise without strain or stress to the user’s lower back, knees and other muscular-skeletal concerns that might exist from a “free-weight” squat.

15 The seat 1 is positioned on two arced bars 2 and 3 which create tracks for the seat 1 to travel or glide on while performing the exercise. The tracks 2 and 3 must be strong enough to support the user’s weight. For example, the tracks 2 and 3 are fabricated from metal rods, hard plastic, or a composite material.

20 There are supports 6 and 7 at both ends which support for the arched track members 2 and 3. At one end of the exercise machine is a foot platform 4 which allows the user to maintain a position similar to that of a person performing the free weight squat exercise. The foot platform 4 provides the user with support and a top surface 10 for which the user, while positioned in the seat 1, can place their feet and position them in such a way
25 which allows them to push or move their body while seated.

The platform 4 is situated away from a bottom edge of the seat 11 so that when the seat is at its lowest position, the seat remains spaced from the platform 4. This enables a person to perform a squat without hitting the seat against the platform. The platform is

connected to the base 13 of the device, where the base is capable of being adjusted forward and backwards along the base. Through the adjustments, the device is capable of fitting different sized people. The adjusted position is maintained with, for example, a pin 42 (Figures 2 and 3).

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For resistance, the exercise machine has at least 1 tension cord 5. In the illustrated embodiment, the exercise machine has three cords 5. The tension cord 5 is attached at one end to a back side of the seat 12 or to a part which travels with the seat 1. The second or bottom end of the cord 5 is anchored to a base 13 (Figure 3) in such a manner
10 which allows the tension of the cord to increase as the seat travels away from the foot platform 4. In between the top and bottom ends of the cord 5, the cord is wrapped around a pulley 40. The pulley is connected to the base 13 and provides the cord with shape so that the cord 5 can be stretched during use.

15 The exercise machine has a switch 14 which allows the user to increase or decrease the tension on the cord 5. In the illustration, the switch is in the form of a handle and a combination of slots 16 and 17. The handle 14 is capable of being moved towards a rearward slot to increase the tension on the cord 5.

20 The tension cord 5 is easily interchanged. Several types of cord may be used with this device. There may be cords of weaker or stronger strength, longer or shorter cords. The types and sizes of cords used will determine the amount of resistance placed on the user when using the exercise machine.

25 Referring to Figures 2 and 3, the device has a pair of handles or supports 18 and 19 for the user to grasp while performing the exercise. Having handles 18 and 19 is an added benefit because it allows the user to maintain balance and concentrate on the objective of the exercise. The handles project away from the seat 1 and forward from the seat 1 at an angle that permits a comfortable grip by the user. For example, the handles project
30 parallel to the base 13 and each handle is spaced from the respective side of the bottom

rest 8 by one quarter of the width of the bottom rest 8. The handles are provided with comfort foam or rubber grips 20 and 21 that enable a comfortable grip for the user.

Turning to Figure 4, the system includes a proximal braking mechanism 21 and a distal
5 breaking mechanism (not shown). The breaking mechanism 21 to provide user with the ability to halt or slow down the seat 1 when completing a repetition at any position while the seat travels along the track 2 and 3. The breaking mechanism includes a pair of bicycle pads respectively attached to a rigid member. Each rigid member is respectively connected to the bottom of each handle 18 and 19. Each handle is capable of being
10 rotated about the bottom so that each breaking pad is capable of pressing against the respective track member 2 and 3.

In use, the user grips the handles 18 and 19, and rotates the handles upwardly. The break pads in turn press against the track member and the seat comes to a stop. The process of
15 stopping the seat pad is beneficial to a person seeking to dismount the device.

The exercise machine also includes a pair of arm resistance straps 23 and 24. The cords are connected to the foot platform 4 at the bottom end of the cords 23 and 24. The top end of the cords includes a respective strap handle 25 and 26 for which the may grasp
20 during use. Since the first ends of the cords are fixed to the platform, the resistance increases as the user moves the seat away from the foot platform during use. The arm resistance straps will not only help develop the user's upper body, but will also assist the user in balancing on the exercise machine.

25 In an alternative embodiment, the device has none of handles 18 and 19, breaks, or cords 23 and 24. Yet alternatively, the device has handles 18 and 19, but no breaks.

The exercise machine has a pair of dampening mechanism 27 and 28 towards the lower portion of the track 2 and 3. The damping mechanisms 27 and 28 define the lower travel
30 of the seat on the track 2 and 3. The dampening mechanism provides a cushion when the

user brings the seat to the lower or rest position. This feature eases the impact on the user when the user brings the seat to its resting position.

5 The machine has a top damping cushion 34. The cushion is fabricated from rubber or plastic and defines the top travel of the seat 1 on the tack 2 and 3. The cushion 34 softens the impact if a user accidentally runs the seat 1 into the back 6.

10 The base 13 has a long center rod 29, a front end 30 and a rear end 31. The front and rear ends 30 and 31 are each equipped with a perpendicular bar 32 and 33 (Figure 3) for stabilizing the mechanism during use and storage. The stabilizing bars 32 and 33 are each is as wide as the seat 1 and fabricated from the same material as the center rod 29.

15 Turning to figure 4, the base of the seat includes a frame 35. The frame 35 provides the base of the seat with support during use. The base has a pair of front glides 36 and a pair of rear glides 37 for smoothly gliding the seat on the tracks 2 and 3.

The exercise machine is constructed such that it is easily disassemble and stored in a compact space.

20 Accordingly, an exercise machine has been disclosed that simulates the motion and benefit of free weight squats.

25 The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not as restrictive. The scope of the invention is, therefore, indicated by the appended claims and their combination in whole or in part rather than by the foregoing description. All changes that come within the meaning and range of equivalency of the claims are to be embraced within their scope.